

Patent Claims

1. Drag chain conveyor for use in underground mining, especially in hard or bituminous coal mining, comprising interconnected, profiled conveyor chutes and conveyor chains, of metallic material, guided therein, with plastic carriers attached to the chains, as well as with at least one drive for the conveyor chains, characterized in that the connection of the plastic carriers (10) with the conveyor chains (11,12) is effected via a molding around of corresponding, annular chain links (13) of the conveyor chains (11,12), whereby the plastic, which is molded for the simultaneous production of the plastic carriers (10) monolithically with the connecting regions that hold the chain links (13), penetrates and surrounds the chain links (13) of the conveyor chains (11,12).
2. Drag chain conveyor according to claim 1, characterized in that the conveyor chains (11, 12) can be composed of individual, interconnected chain strands having plastic carriers (10) cast thereon.

3. Drag chain conveyor according to claim 1 or 2, characterized in that the plastic carriers (10) are disposed between two outwardly disposed individual chains.
- 5 4. Drag chain conveyor according to claim 1 or 2, characterized in that the plastic carriers (10) are disposed on a centrally extending central chain.
- 10 5. Drag chain conveyor according to claim 1 or 2, characterized in that the plastic carriers (10) are disposed on two spaced-apart central chains (11,12) that extend centrally through the plastic carriers (10).
- 15 6. Drag chain conveyor according to one of the claims 1 to 5, characterized in that for the production of the plastic carriers (10), including their connecting regions with the chain links (13), a flowable plastic material having self-extinguishing, difficult to ignite, and anti-static material properties is used.
- 20 7. Drag chain conveyor according to one of the claims 1 to 6, characterized in that for the reinforcement, metallic reinforcing particles are cast into the plastic carriers (10).

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8. Drag chain conveyor according to one of the claims 1 to 6, characterized in that for the reinforcement of the plastic carriers (10), reinforcing fibers (14,15) are introduced into the plastic material.
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9. Drag chain conveyor according to claim 8, characterized in that short reinforcing fibers (14) having a random distribution are embedded into the plastic matrix of the plastic carriers (10).
10. Drag chain conveyor according to claim 8, characterized in that reinforcing fibers (15) that extend over the length of the plastic carriers (10) are introduced into the plastic matrix.
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11. Drag chain conveyor according to claim 10, characterized in that the reinforcing fibers (15) are disposed so as to extend about the chain links (13).
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12. Drag chain conveyor according to claim 10, characterized in that the reinforcing fibers (15) are disposed so as to be passed through the annular chain links (13).

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13. Drag chain conveyor according to claim 8, characterized in that
a mesh (16) of reinforcing fibers is disposed on or in the plastic
matrix.

5 14. Drag chain conveyor according to claim 8, characterized in that
a fabric of reinforcing fibers is introduced into the plastic matrix.

10 15. Drag chain conveyor according to claim 8, characterized in that
a braiding of reinforcing fibers is introduced into the plastic
matrix.

16. Drag chain conveyor according to claim 8, characterized in that
a knitting of reinforcing fibers is introduced into the plastic
matrix.